



Surface Water Design Requirements

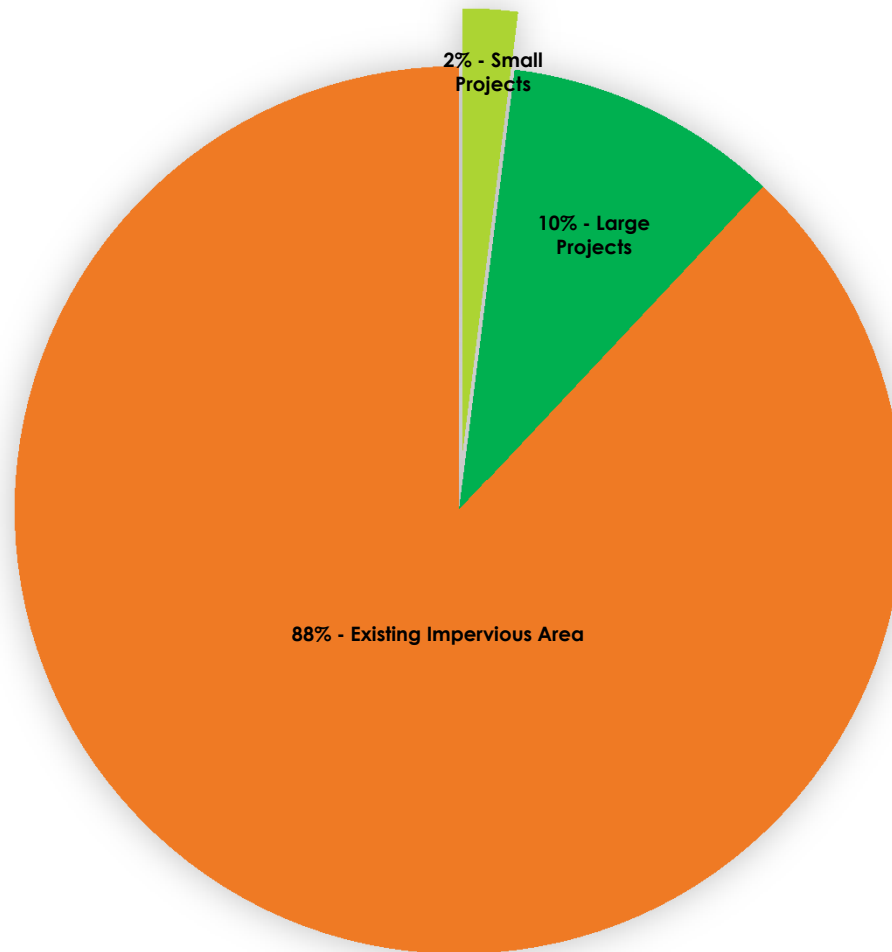
CITY COUNCIL MEETING

NOVEMBER 1, 2016

Goal

- ▶ Provide direction on which version of the Addendum to include in the Public Works Pre-approved Plans and Policies

Impervious Added and Replaced with Development/Redevelopment Expected 2017-2035



Oct 18th Council Meeting

- ▶ Adopted Ordinance O-4538 which adopts the King County package
- ▶ Council split 3-3 on requiring flow control facilities for small projects
- ▶ Return to Council when 7 Council members are present for decision by December 31, 2016

King County Package

- ▶ 2016 King County Surface Water Design Manual
- ▶ 2016 King County Stormwater Pollution Prevention Manual
- ▶ **Kirkland Addendum to the 2016 King County Surface Water Design Manual (Discussing tonight)**
- ▶ Cross-reference between KMC and King County Code Chapter 9.04, 9.12 and 16.82

Outreach

► October 24th Open House



Kirkland Addendum to 2016 King County Surface Water Design Manual

- ▶ Addendum includes implementation details: revisions and clarifications
- ▶ Addendum is incorporated in Public Works Pre-Approved Plans and Policies
- ▶ Public Works Director has authority to develop and update Public Works Pre-Approved Plans and Policies, but seeks Council direction on significant policy issues

Addendum – Summary of Contents



- ▶ Details of drainage review types and requirements
- ▶ Implementation details regarding offsite analysis of wetlands and water quality problems
- ▶ Additional alternatives for water quality treatment, remaining consistent with the 2014 Ecology Manual
- ▶ Clarification of soil infiltration testing requirements
- ▶ Table that cross-references Kirkland and King County codes

Alternatives for Addendum

Alternative 1

- Requires flow control facilities for small projects

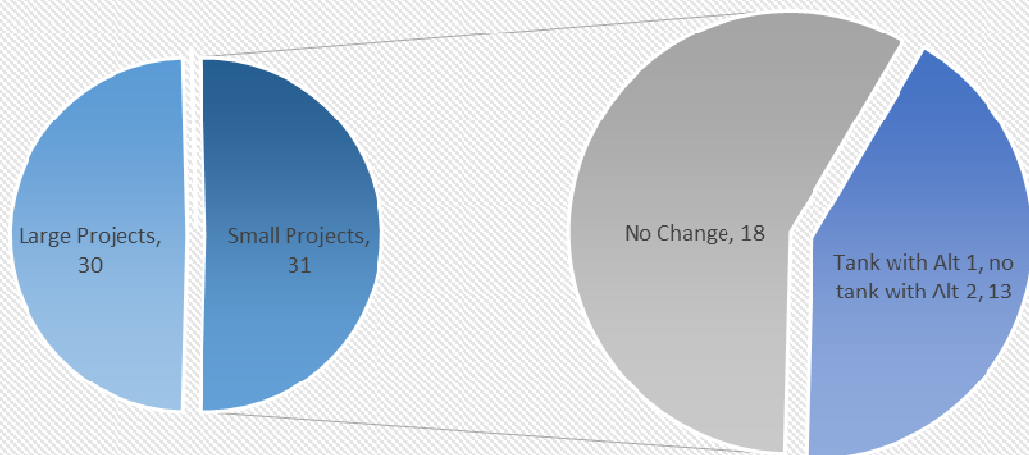
Alternative 2

- Does not require flow control facilities for small projects

Note: Small projects are those that propose to add between 7,000 and < 10,000 sf of impervious surface

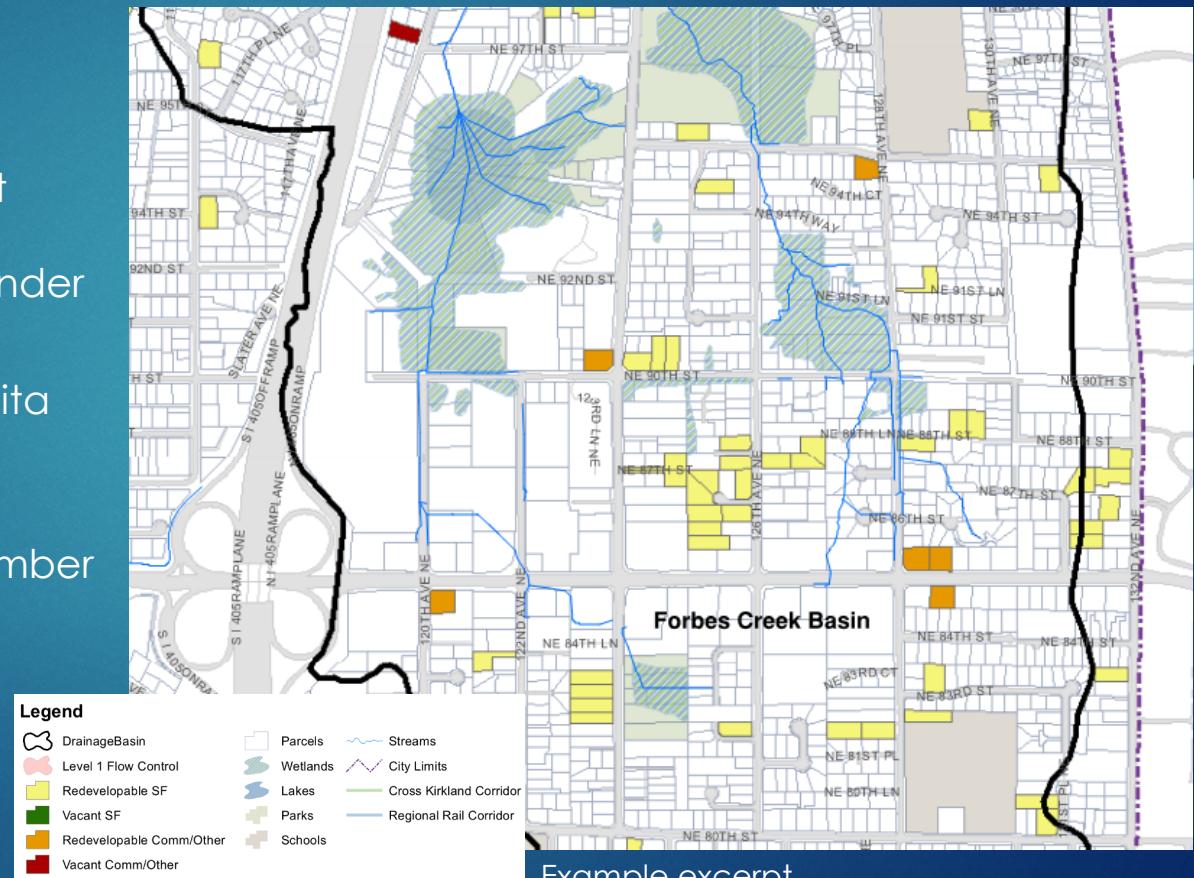
Flow Control for Small Projects

2015 Kirkland Projects Affected by Differences Between
King County vs Ecology Manual

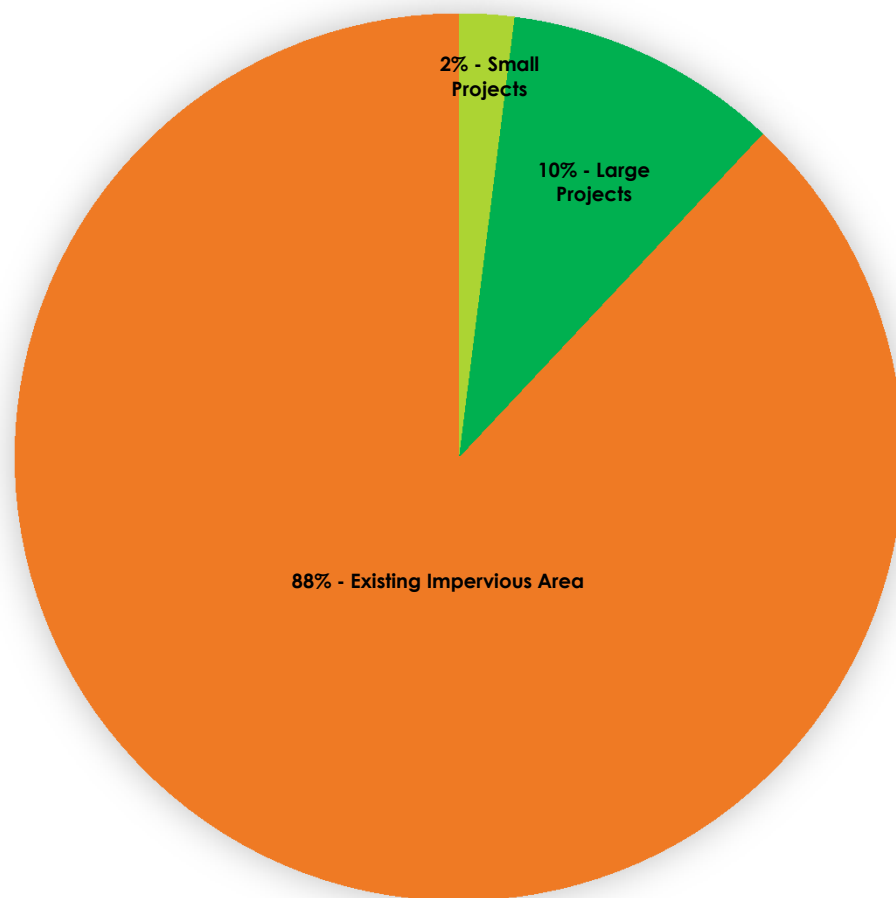


Flow Control for Small Projects

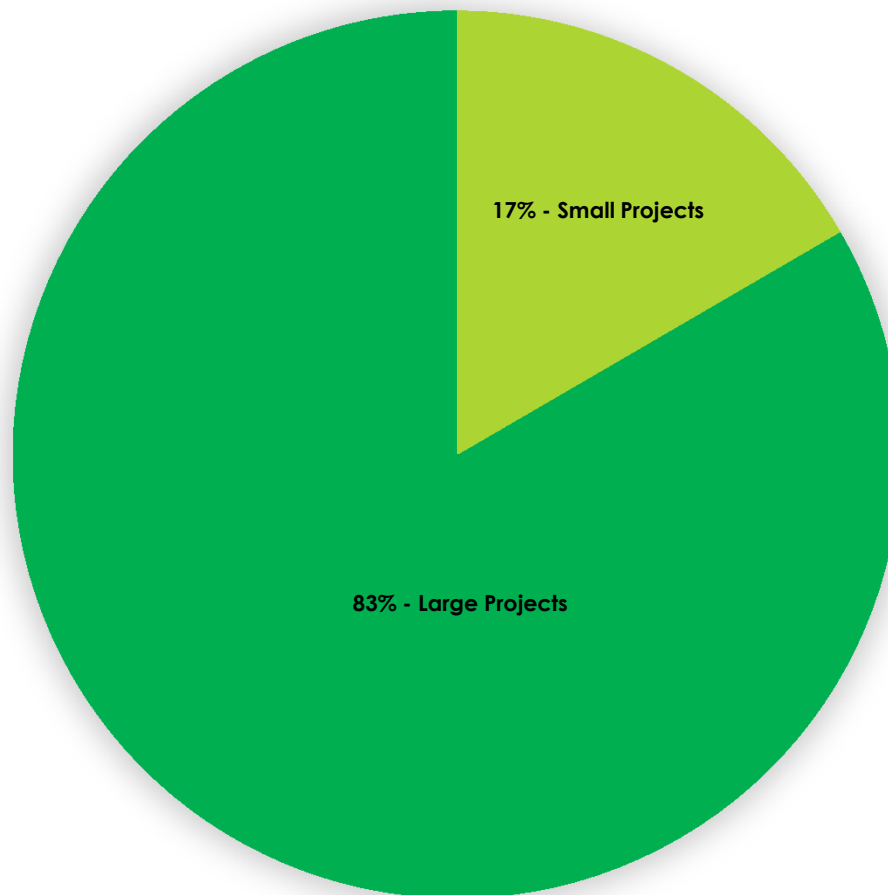
- ▶ 443 parcels total by 2035 that would have to provide tanks under Alternative 1 but not under Alternative 2
- ▶ Most are in Forbes (124) Juanita (92) and Champagne (84) watersheds
- ▶ This is about 1/3 of overall number of parcels likely to develop/redevelop in City



Impervious Added and Replaced with Development/Redevelopment Expected 2017-2035



**Small Project Impervious Added and Replaced Relative to Total
Impervious Added and Replaced Through
Development/Redevelopment 2017-2035**



Alternatives for Flow Control for Small Projects

Alternative 1 Require Flow Control beyond LID

- ▶ Greater protection for downstream resources
- ▶ Higher construction cost
- ▶ Site-specific feasibility concerns
- ▶ City would be responsible for inspection and maintenance of these facilities (estimated 10-15 would be added per year)

Alternative 2 Do Not Require Flow Control beyond LID

- ▶ Increased protection for downstream resources would not be provided
- ▶ Potential for downstream flooding due to cumulative impacts
- ▶ City may have a need to provide flow control at a later date, and it would be costly for rate payers
- ▶ Regional facilities to provide flow control would be hard to site

The developer will factor development costs, including stormwater costs, into the price that they will pay for undeveloped land

Staff Recommendation



- ▶ Alternative 1: Require flow control facilities for small projects
- ▶ Conduct Study
 - LID Feasibility Tools
 - Other means of implementing LID
 - Evaluation of flow control sizing under both manuals
 - Return to Council with findings / recommendations

Discussion and Council Direction



- ▶ Which Alternative Addendum?

Alternative 1: Requires flow control facilities for small projects

OR

Alternative 2: Does not require flow control facilities for small projects

Next Steps

- ▶ Incorporate preferred version of the Addendum into the Pre-approved Plans and Policies
- ▶ Continue to evaluate cost, fee, and program impacts as part of 2017-2018 budget
- ▶ Requirements become effective January 1, 2017